

XVIII. *An Account of a surprising Inundation in the Valley of St. John's near Kefwick in Cumberland, on the 22^d Day of August 1749, in a Letter from a young Clergyman to his Friend; communicated by John Lock, Esq; F. R. S.*

Feb. 12. 1749.

S I R,

Read March 15. 1749. **I**N order to give you a distinct Answer to your Queries in relation to the Inundation at *St. John's*, I took a Ride to the Place to satisfy myself of the Matter of Fact, because the Accounts which were given me were very different.

This remarkable Fall of Water happened at 9 o'Clock in the Evening, on the 22^d of *August* last, in the Midst of the most terrible Thunder, and incessant Lightning, ever known in that Part in the Memory of the oldest Man living, the preceding Afternoon having been extreme hot and sultry. And what seems very uncommon, and difficult to account for, the Inhabitants of the Vale, of good Credit, affirm to have heard a strange buzzing Noise like that of a Malt mill, or the Sound of Wind in the Tops of Trees, for two Hours together, before the Clouds broke.

I am not so much a Philosopher as to find out what could occasion such a vast Collection of Clouds or Vapours, particularly at that Time and Place; but am satisfy'd from the Havock it has made in so short a time (for it was all over in less than two Hours),
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that it must have far exceeded any Thunder-shower that we have ever seen. Most probably it was a Spout or large Body of Water, which, by the Rarefaction of the Air, occasioned by that incessant Lightning, broke all at once upon the Tops of these Mountains, and so came down in a Sheet of Water upon the Valley below.

This little *Valley of St. John's* lies East and West, extending about three Miles in Length, and half a Mile broad, closed in on the South and North Sides, with prodigious high, steep, rocky Mountains: Those on the North Side, called *Legburthet Fells*, had almost the Whole of this Cataract; for I do not find that any remarkable Quantity of Water was observed from those on the South, notwithstanding the Distance from the Tops on each Side cannot be a Mile. It appears likewise, that this vast Spout did not extend above a Mile in Length; for it had Effect only upon four small Brooks, which come trickling down from the Sides of the rocky Mountains. But no Person, that does not see it, can form any Idea of the ruinous Work occasioned by these Rivulets at that time, and (what seems almost incredible) in the Space of an Hour and half. At the Bottom of *Catchet's Gill*, which is the Name of the greatest, stood a Mill and a Kiln, which were entirely swept away, in five Minutes time, and the Place where they formerly stood, now covered with huge Rocks, and Rubbish, 3 or 4 Yards deep. One of the Mill-stones cannot be found, being covered, as is supposed, in the Bottom of this Heap of Rubbish.

In the Violence of the Storm, the Mountain has tumbled so fast down as to choak up the old Course
of

of this Brook; and, what is very surprising, it has forced its Way through a shivery Rock, where it now runs in a great Chasm, four Yards wide, and betwixt eight and nine deep.

In the Course of each of these Brooks, such monstrous Stones, or rather Rocks, and such vast Quantities of Gravel and Sand, are thrown upon their little Meadow-fields, as render the same absolutely useless, and never to be recovered.

It would surpass all Credit to give the Dimensions and Weight of some Rocks, which are not only tumbled down the steep Parts of the Mountains, but carried a considerable Way into the Fields, several thrown upon the Banks larger than a Team of ten Horses could move. Near a Place called *Lob-wath*, I had the Curiosity to measure one carried a great Way, which was 676 Inches, or near 19 Yards about.

The Damage done to the Grounds, Houses, Walls, Fences, Highways, with the Loss of the Corn and Hay then upon the Ground, is computed variously, by some at 1000*l.* by others at 1500*l.*

One of these Brooks, which is called *Mose or Mosedale Beck*, which rises near the Source of the others, but runs North from the other Side of *Legburthet Fells*, continues still to be foul and muddy, having, as is supposed, worn its Chanel so deep in some Part of its Course as to work upon some mineral Substance, which gives it the Colour of Water hushed from Lead-mines, and is so strong as to tinge the *River Derwent* (into which it empties itself) even at the *Sea*, near 20 Miles from their Meeting.

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These are most of the Particulars I could collect concerning this wonderful Inundation. I shall only add *Mr. N.'s Philosophical Account to his philosophical Friend.*

S I R,

*T*uesday August 22. 1749. was the best Hay-day we had here that Season, but at Eight o'Clock at Night it began to Thunder, first Westwards from *Cockermouth*, then in a few Minutes Eastwards from *Penrith*. These Thunder-clouds, with equal Force, and contrary Direction, met together upon the Mountains above the Valleys of *St. Johns* and *Threlkeld*, as at or about the *Great Dod* and *Cova Pike*, and must of consequence hover on or about them, and thereon vent *Water-spouts* (but not so on the Valleys, otherwise than by the violent Course of the Brooks and Rivulets, from the one down to the other); which would increase and perpetuate the Lightning, so swift in Motion, and visible to our Eyes, but retard and obstruct the Undulations of the Air, which are far more slow in Motion, and later in coming to our Ears.---For any two such Bodies as thick Clouds, driven by contrary Winds, and meeting together with equal Force, and contrary Directions, cannot impel each other backwards or forwards, but must remain at or about the Place where they met, and there exert their Vigour: which, in this Case, must be the Reason of such Water-spouts upon these Mountains, and not in the Valleys; and also why the Sight of

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“ the Lightning was more terrible to our Eyes than
 “ the Sound of the Thunder to our Ears....Like to
 “ this is the Case of *Whirl-puffs*.”

Yours, &c.

J. R.

XIX. *An Account of an extraordinary Fire-ball bursting at Sea, communicated by Mr. Chalmers.*

Read March 22. 1749. **N**OVEMBER 4. 1749. in the Latitude of $42^{\circ} 48'$ Longitude, $09^{\circ} 03'$ the Lizard then bore, N. $41^{\circ} 05'$ about the Distance of 569 Miles. I was taking an Observation on the Quarter-deck, about ten Minutes before 12 o'Clock: One of the Quarter-masters desired I would look to Windward, which I did, and observed a large Ball of blue Fire rolling on the Surface of the Water, at about Three Miles Distance from us: We immediately lowered our Topsails, and had our Fore and Main Clew-Garnets manned to haul up our Courses; but it came down upon us so fast, that before we could raise the Main Tack, we observed the Ball to rise almost perpendicular, and not above forty or fifty Yards from the Main Chains: It went off with an Explosion as if Hundreds of Cannon had been fired at one time; and left so great a Smell of Brimstone, that the Ship seemed to be nothing but Sulphur. After the Noise was over, which I believe did